

Optical Sensor and optical process for the characterization of a chemical and/or bio-chemical substance

Abstract

The optical sensor contains an optical waveguide (1) with a substrate (104), waveguiding material (105), a cover medium (106) and a waveguide grating structure (101–103). By means of a light source (2), light can be emitted to the waveguide grating structure (101–103) from the substrate side and/or from the cover medium side. (101–103). With means of detection (11), at least two differing light proportions (7–10) radiated from the waveguide (1) can be detected. For carrying out a measurement, the waveguide can be immovably fixed relative to the light source (2) and the means of detection (11). The waveguide grating structure (101–103) itself consists of one or several waveguide grating structure units (101–103), which if so required can be equipped with (bio-)chemo-sensitive layers. The sensor permits the generation of absolute measuring signals.